

One Water Strategy Paper FY17 Scope

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Note: stormwater and flooding are being handled in a standalone strategy paper

1. **Establish water expert engagement strategy.** Consider using ENR, CSC, and CW Water resource groups as sounding boards. Also consider water topic focus groups, 2-3 calls each, as needed. See potential partners list below. JN lead, NB support, others as needed to review approach. August – September 2016.
2. **Research and develop preliminary One Water framework** based on work by others and applied to our region. This will help provide a framework and direction for the research work in subsequent tasks, i.e., to generate an idea of where we are going with the One Water concept. The One Water framework will be refined during Task 6.¹ JN lead, NB and AC support. August - September 2016.
3. **Review past and current water-related initiatives and identify water resource issues and challenges that ON TO 2050 might address.** Review should include CMAP water resource plans and projects, water related work of peer MPOs (particularly water supply and wastewater), and recent / anticipated initiatives, regulations, standards, studies, and policies. This assessment will help establish a foundation of existing policies and recommendations, potential refinements to GO TO 2040 policies, and potential new policy areas for ON TO 2050.² Some assessment work was done in FY15 as part of environment team assessment and review. JN, NB, HH, AC, new planner. August - September 2016.
4. **Conduct research and data analysis to help identify issues and challenges and inform/support potential policies for ON TO 2050.**³ The tasks below are based on assumptions about where ON TO 2050 may go with respect to water resources; other data and analysis needs may arise during Task 3. August - November 2016.
 - a. Water quality and habitat: HH lead, new planner/ interns and JN support
 - i. map stream integrity / IBI ratings (a potential surrogate indicator for water quality) in relationship with sub-HUC12 watershed imperviousness calculations⁴ and change in impervious over time; categorize watersheds based on Center for Watershed Protection metrics. (Imperviousness draft completed by Zach.)⁵
 - ii. map completed watershed plans, major impairments by watershed, TMDL water bodies, other WQ data that may be available
 - b. Wastewater: JN lead, KE, HH, and new planner/intern support
 - i. document expansion of FPAs and land use change over time⁶
 - ii. map septic vs sewer areas in order to identify policies for septic areas.⁷

¹ *One Water: a unified view of urban water environment by treating drinking water, wastewater, stormwater, and green spaces as a systemic whole.* M. Tiboris, CCGA

² Eg, ON TO 2050 may recommend an update to Water2050 using new population and water demand forecasts, as well as recommend inclusion of more than just conservation-oriented solutions to water supply / demand management

³ This work should be coordinated with the environmental snapshot (scope tbd), as there may be some overlap

⁴ as done for Nine Lakes and Boone-Dutch

⁵ consider other water quality data that relate to CMAP policies, e.g., chloride, nitrogen, phosphorous (see DRSCWG's work); also consider mapping headwaters (Ders); LCSMC hired out for 25 stream biological assessments

⁶ Dawn has documented this, but the FPA boundary data only exists through 2014

⁷ IEPA does not maintain data, but would like to have it (Amy W); ask County Health Depts if they have GIS data on locations.

- iii. map combined sewer communities/ areas,⁸ CSO discharge locations and frequency of discharge event (IEPA may have this data?)
- c. Water supply quality and quantity: NB lead, JN, Margaret, and Intern support
 - i. update map of water supply by municipality, and identify which communities have changed source or come online since Water 2050 was adopted
 - ii. examine water supply limitations (quantity, quality, ease / cost of access) and challenges for the four water sources (deep and shallow groundwater, Fox and Kankakee rivers, and Lk Michigan)⁹
 - iii. update water demand and scenario forecasts using 2014 or newer CMAP forecast data (ISWS and IDNR have already done some of region; CMAP would request assistance from ISWS)¹⁰
 - iv. update water reporting database (quantify water loss) for Lake Michigan users (and other sources, if possible¹¹) (add 2014 data)
 - v. Update CMAP data on ISWS reported water usage for groundwater and surface water users
 - vi. assess water rate data for region (Margaret working on it)
 - vii. examine potential to assess water supply and recharge in groundwater dependent communities. Examine best practices, other regions, and existing data sets. Coordinate with the state water survey about feasibility of such work, potential future ISWS research, and to facilitate data collection that would assist in this effort.
 - viii. assess municipal codes for ways to influence water consumption (possible future study)

5. **Examine potential policy solutions / directions for issues and challenges** identified in Task 4. The list below includes examples of possible future directions. Some of these may be simply recommended as future research tasks. October – December 2016.

- a. Water quality. HH lead, JN, new planner, and intern support
 - i. assess whether current watershed planning approach is effective for driving water quality improvement, or whether a different approach would be more effective¹²
- b. Wastewater. JN lead, HH support.
 - i. assess whether / how CMAP should address wastewater infrastructure expansion, areas served by septic systems, etc., i.e., what is our role wrt wastewater service
- c. Water supply: NB lead, JN and Margaret support
 - i. examine link between urbanization and transportation investments and water supply source (connect to work on Lands in Transition strategy paper, i.e., where development occurred and the water source)
 - ii. refine GT2040 recs about recharge areas / SARAs and open space protection¹³

⁸ Dawn may have data source

⁹ Which communities may face shortages and should be most focused on ensuring future supplies? What are the primary issues for communities using the three primary water supply sources?

¹⁰ If the data / analysis work cannot be accomplished in the next year this is likely to be a recommendation of On To 2050

¹¹ We only have loss and rate data for a subset of the region – ISWS not collecting for groundwater communities, or if they are, it's voluntary and recent, so lacks a trend.

¹² CW inventoried [watershed issues](#) and plan [goals and objectives](#)

¹³ Yes, but we will still have trouble identifying where they are located (except for Kane and McHenry). Lake, Kendall, and Will could be coming online soon with \$\$ if found, Cook and DuPage are distant (2020, 2025). Unless we can identify a proxy.

- iii. assess potential for improved coordination and guidelines for users of the same water source, e.g., allocations, prioritization of withdrawals, source watershed management, and addressing unregulated users such as agriculture and small wells.
 - iv. assess potential for reuse and source switching
 - v. assess potential for improved planning and infrastructure investments via local plans, form of development, transportation investments and CIPs, full cost pricing / rates, fiscal or other impact fees
 - vi. re-examine demand management recommendations of Water 2050
6. **Refine One Water framework, policy directions, and policy refinements for ON TO 2050.** This task involves assessing the results of the research steps, drafting and vetting future policy directions and/or refinements, and organizing water related topics to more clearly and directly highlight water as an interrelated priority regional issue and *Water as a Resource*. JN lead, NB, HH, KE, MS, AC support. November 2016 – January 2017.
- a. Distill the preceding research tasks and summarize results and key findings. What does it all mean and point to in terms of policy directions?
 - b. Explore, vet, and prioritize potential new policy areas (see Possible Future Directions)
 - c. Refine One Water framework as guide to next plan elements and connect to other regional plan topics such as resilience and green infrastructure co-benefits strategy papers. See GICB paper as example.

Related work plan items

1. *Natural Resource Inventory* data layers can be used to help identify the physical location (and in some cases quality) of the region's major water resources. (Completed by Zach)
2. *Stormwater Strategy Paper* (Nora) will document the new approach to stormwater management planning developed by CMAP, including planning level recommendations such as examining soils (hydrologic soil groups) and preserving overland flow paths for excess runoff. Target: early FY17

Wish List

1. conduct a cost analysis of drawdown and loss of water source and cost to switch to other sources (to Fox or Kankakee or Michigan) or drill deeper vs cost to implement conservation measures¹⁴

¹⁴ Talk to Margaret and Pete Wallers, who is doing this for Montgomery-Yorkville-Oswego, possible case study